

This listing of claims will replace all prior versions and listings of claims in the application:

1-2. (canceled)

3. (previously presented) An aqueous pesticidal concentrate composition comprising:

glyphosate or a salt or ester thereof dissolved in an aqueous medium, the glyphosate being present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant;

a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants; and

a compound which increases cell membrane permeability within the plant to increase cellular uptake of the glyphosate in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture,

wherein said surfactant component and said compound are present in a weight ratio between about 5:1 and about 40:1.

4. (original) A composition of claim 3 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

5. (original) A composition of claim 4 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, or hexamethylenediamine salt thereof.

6. (original) A composition of claim 5 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.
7. (previously presented) A composition of claim 3 wherein said surfactant component and said compound are present in a weight ratio between about 5:1 and about 20:1.
8. (previously presented) A composition of claim 3 wherein said composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.
9. (previously presented) A composition of claim 3 wherein said compound comprises oxalic acid or a salt thereof.
10. (previously presented) A composition of claim 3 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.
11. (original) A composition of claim 3 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.
12. (original) An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
a compound which increases cell membrane permeability within the plant such that, when said composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant, cellular uptake of glyphosate is increased in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

13. (original) A composition of claim 12 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.
14. (original) A composition of claim 12 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants, the surfactant component being present in a concentration sufficient to provide acceptable temperature stability of the composition such that the composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.
15. (original) A composition of claim 12 wherein said compound comprises oxalic acid or a salt thereof.
16. (original) A composition of claim 12 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.
17. (original) An aqueous herbicidal concentrate composition comprising:  
glyphosate predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant;  
a compound which increases cell membrane permeability within the plant to increase cellular uptake of the glyphosate in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

18. (original) A composition of claim 17 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.

19. (original) A composition of claim 18 wherein the glyphosate is predominantly in the form of the potassium or monoethanolamine salt thereof.

20. (original) A composition of claim 17 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in an aqueous medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.

21. (original) A composition of claim 17 wherein said compound comprises oxalic acid or a salt thereof.

22. (original) A composition of claim 17 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.

23. (original) A composition of claim 17 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.

24. (original) A composition of claim 23 wherein the glyphosate concentration is in excess of 450 grams glyphosate a.e. per liter.

25. (original) A composition of claim 24 wherein the glyphosate concentration is in excess of 500 grams glyphosate a.e. per liter.

26. (original) An aqueous herbicidal concentrate composition comprising:

glyphosate predominantly in the form of the potassium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a compound which increases cell membrane permeability within the plant to increase cellular uptake of the glyphosate in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

27. (original) A composition of claim 26 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.

28. (original) A composition of claim 26 wherein said compound comprises oxalic acid or a salt thereof.

29. (original) A composition of claim 26 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.

30. (original) A composition of claim 26 wherein the concentration of potassium glyphosate is in excess of 300 grams glyphosate a.e. per liter.

31. (original) A composition of claim 30 wherein the concentration of potassium glyphosate is in excess of 400 grams glyphosate a.e. per liter.

32. (original) A composition of claim 31 wherein the concentration of potassium glyphosate is in excess of 500 grams glyphosate a.e. per liter.

33-66. (canceled)

67. (original) An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
oxalic acid or a salt thereof in a concentration such that, when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant, growth of the plant is controlled to a greater extent than in a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture.

68. (original) A composition of claim 67 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

69. (canceled)

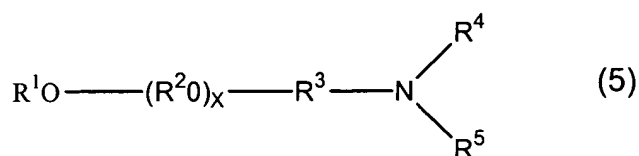
70. (original) An aqueous herbicidal composition comprising:  
glyphosate predominantly in the form of the potassium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible broadleaf plant; and  
oxalic acid or a salt thereof in a concentration such that growth of the plant is controlled to a greater extent as compared to a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture.

71. (original) A composition of claim 70 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

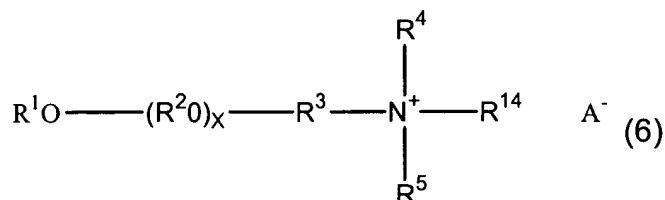
72. (canceled)

73. (original) A composition of claim 71 wherein the surfactant component comprises one or more cationic, nonionic or anionic surfactants.

74. (original) A composition of claim 73 wherein the surfactant component comprises an aminated alkoxyated alcohol having the formula:



or



wherein R<sup>1</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; R<sup>2</sup> in each of the x (R<sup>2</sup>O) and y (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>3</sup> and R<sup>6</sup> are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms; R<sup>4</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup> or together with R<sup>5</sup> and the nitrogen atom to which they are attached, form a cyclic or heterocyclic ring; R<sup>5</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup>, or together with R<sup>4</sup> and the nitrogen atom to which they are attached, form a cyclic or heterocyclic ring; R<sup>7</sup> is hydrogen or a linear or branched alkyl group having 1 to about 4 carbon atoms; R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are hydrogen, hydrocarbyl or substituted hydrocarbyl,

$R^{14}$  is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl,  $-(R^6)_n-(R^2O)_yR^7$ ,  $-C(=NR^{11})NR^{12}R^{13}$ ,  $-C(=O)NR^{12}R^{13}$ , or  $-C(=S)NR^{12}R^{13}$ ,  $n$  is 0 or 1,  $x$  and  $y$  are independently an average number from 1 to about 60, and  $A^-$  is an agriculturally acceptable anion.

75. (original) An aqueous herbicidal composition comprising:  
glyphosate predominantly in the form of the diammonium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible broadleaf plant; and  
oxalic acid or a salt thereof in a concentration such that growth of the plant is controlled to a greater extent as compared to a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture.

76. (original) A composition of claim 75 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

77. (canceled)

78. (original) A composition of claim 75 wherein the weight ratio of glyphosate a.e. said oxalic acid is between about 1:1 and about 10:1.

79. (original) A composition of claim 78 wherein the weight ratio of glyphosate a.e. said oxalic acid is about 3:1.

80-85. (canceled).

86. (original) An aqueous herbicidal composition comprising:



glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 360 grams glyphosate a.e. per liter; and

oxalic acid or a salt thereof in a concentration such that, when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible broadleaf plant, growth of the plant is controlled to a greater extent as compared to a broadleaf plant treated with a reference application mixture, wherein the composition of said reference application mixture differs from the composition of said enhanced application mixture only in that it is devoid of oxalic acid and said salt and it contains ethylenediaminetetraacetic acid or sodium citrate.

87. (original) A composition of claim 86 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

88. (canceled)

89. (original) An aqueous herbicidal composition comprising:

glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

oxalic acid or a salt thereof in a concentration such that growth of the plant is controlled to a greater extent as compared to a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture;

wherein the composition has a density of at least about 1.210 grams/liter.

90. (original) A composition of claim 89 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

91. (original) A composition of claim 89 wherein the composition has a density of at least about 1.230 grams/liter.

92. (original) A composition of claim 91 wherein the composition has a density of at least about 1.240 grams/liter.

93. (canceled)

94. (original) An aqueous herbicidal concentrate composition comprising:  
glyphosate predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and  
oxalic acid or a salt thereof in a concentration such that growth of the plant is controlled to a greater extent as compared to a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture.

95. (original) A composition of claim 94 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.

96. (canceled)

97. (currently amended) An aqueous herbicidal composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant; and

oxalic acid or a salt thereof;

wherein the glyphosate a.e. and the oxalic acid are present in a weight ratio greater than 21:1 and the growth of the plant is controlled to a greater extent than in a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture.

98. (original) A composition of claim 97 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

99-100. (canceled)

101. (previously presented) An aqueous pesticidal concentrate composition comprising:

glyphosate or a salt or ester thereof dissolved in an aqueous medium, the glyphosate being present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant;

a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants; and

a compound which increases expression of hydroxyproline-rich glycoproteins which increases movement of said glyphosate to the phloem in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture,

wherein said surfactant component and said compound are present in a weight ratio between about 5:1 and about 40:1.

102. (original) A composition of claim 101 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine,

isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

103. (original) A composition of claim 102 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, or hexamethylenediamine salt thereof.

104. (original) A composition of claim 103 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.

105. (previously presented) A composition of claim 104 wherein said surfactant component and said compound are present in a weight ratio between about 5:1 and about 20:1.

106. (previously presented) A composition of claim 101 wherein said composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

107. (previously presented) A composition of claim 101 wherein said compound comprises oxalic acid or a salt thereof.

108. (original) A composition of claim 101 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.

109. (original) An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
a compound which increases expression of hydroxyproline-rich glycoproteins such that, when said composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant,

movement of said glyphosate to the phloem is increased in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

110. (original) A composition of claim 109 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

111. (original) A composition of claim 109 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants, the surfactant component being present in a concentration sufficient to provide acceptable temperature stability of the composition such that the composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

112. (original) A composition of claim 109 wherein said compound comprises oxalic acid or a salt thereof.

113. (currently amended) An aqueous herbicidal concentrate composition comprising:

(i) glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant;

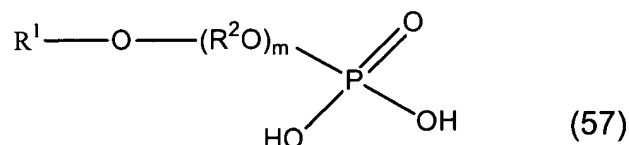
(ii) a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s); and

(iii) oxalic acid or a salt thereof;

wherein said surfactant component and said oxalic acid or salt thereof are present in a weight ratio between about 5:1 and about 40:1 and

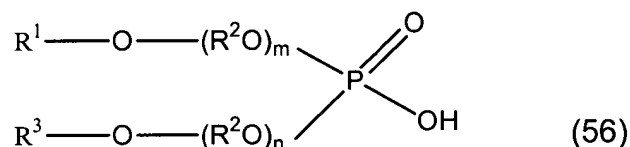
wherein the surfactant component comprises at least one surfactant selected from the group consisting of:

(a) a phosphate ester having the formula:



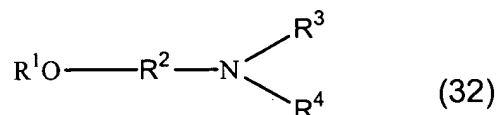
wherein  $\text{R}^1$  is a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms;  $\text{R}^2$  in each of the  $m$  ( $\text{R}^2\text{O}$ ) groups is independently  $\text{C}_2\text{-C}_4$  alkylene; and  $m$  is from 1 to about 30;

(b) a phosphate diester having the formula:



wherein  $\text{R}^1$  and  $\text{R}^3$  are independently a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms;  $\text{R}^2$  in each of the  $m$  ( $\text{R}^2\text{O}$ ) and the  $n$  ( $\text{R}^2\text{O}$ ) groups is independently  $\text{C}_2\text{-C}_4$  alkylene; and  $m$  and  $n$  are independently from 1 to about 30;

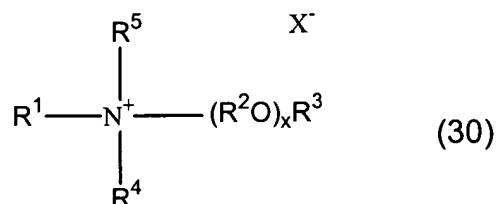
(c) etheramines having the formula:



wherein  $\text{R}^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $\text{R}^2$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms;  $\text{R}^3$  and  $\text{R}^4$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^5\text{O})_x\text{R}^6$ ,  $\text{R}^5$  in each of the  $x(\text{R}^5\text{-O})$  groups is independently  $\text{C}_2\text{-C}_4$  alkylene,  $\text{R}^6$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and  $x$  is an average number from 1

to about 50; and

(d) monoalkoxylated quaternary ammonium salts having the formula:



wherein R<sup>1</sup> and R<sup>5</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>4</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, x is an average number from 1 to about 60, and X<sup>-</sup> is an agriculturally acceptable anion.

114. (original) A composition of claim 113 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

115. (original) A composition of claim 114 wherein the weight ratio of glyphosate a.e. to surfactant is between about 6:1 and about 1:1.

116. (original) A method of decreasing surfactant content of an aqueous herbicidal concentrate composition required to provide a given degree of growth control observed when the composition is diluted with water and applied to foliage of a plant, the method comprising adding oxalic acid or a salt thereof to said composition, said composition comprising glyphosate or a salt or ester thereof and one or more surfactants.

117. (original) The method of claim 116 wherein the weight ratio of glyphosate a.e. to said oxalic acid is between about 1:30 and about 100:1.

118. (original) A method of decreasing aquatic toxicity of an aqueous herbicidal composition without decreasing growth control observed when the composition is diluted with water and applied to foliage of a plant, the method comprising adding oxalic acid or a salt thereof to said composition, said composition comprising glyphosate or a salt or ester thereof.

119. (original) A method of claim 118 further including a surfactant component comprising one or more surfactants.

120. (original) The method of claim 118 wherein the weight ratio of glyphosate a.e. to said oxalic acid is between about 1:30 and about 100:1.

121. (original) A method of controlling growth of morningglory, the method comprising applying an aqueous composition to foliage of said morningglory, said composition comprising glyphosate or a salt or ester thereof and oxalic acid or a salt thereof.

122. (original) The method of claim 121 wherein the weight ratio of glyphosate a.e. to said oxalic acid is between about 1:30 and about 100:1.

123. (currently amended) An aqueous herbicidal concentrate composition comprising:

(i) glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant;

(ii) a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s); and

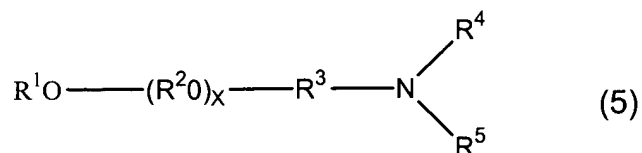
(iii) oxalic acid or a salt thereof;

wherein said surfactant component and said oxalic acid or salt thereof are present in a weight ratio between about 5:1 and about 40:1 and

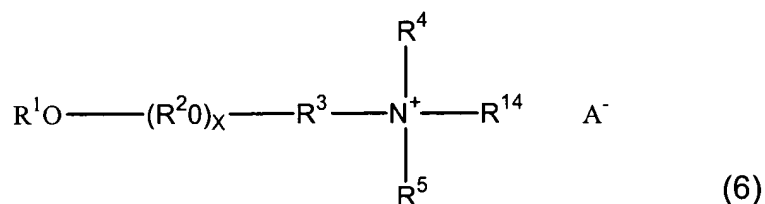
wherein the surfactant component comprises at least one surfactant selected from the group consisting of:

(a) aminated alkoxyated alcohol having the formula:



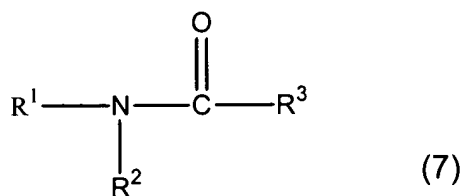


or



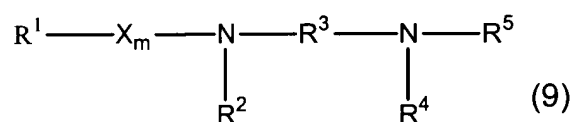
wherein R<sup>1</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; R<sup>2</sup> in each of the x (R<sup>2</sup>O) and y (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>3</sup> and R<sup>6</sup> are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms; R<sup>4</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup> or together with R<sup>5</sup> and the nitrogen atom to which they are attached, form a cyclic or heterocyclic ring; R<sup>5</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup>, or together with R<sup>4</sup> and the nitrogen atom to which they are attached, form a cyclic or heterocyclic ring; R<sup>7</sup> is hydrogen or a linear or branched alkyl group having 1 to about 4 carbon atoms; R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are hydrogen, hydrocarbyl or substituted hydrocarbyl, R<sup>14</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, or -C(=S)NR<sup>12</sup>R<sup>13</sup>, n is 0 or 1, x and y are independently an average number from 1 to about 60, and A<sup>-</sup> is an agriculturally acceptable anion;

(b) hydroxylated amides having the formula:



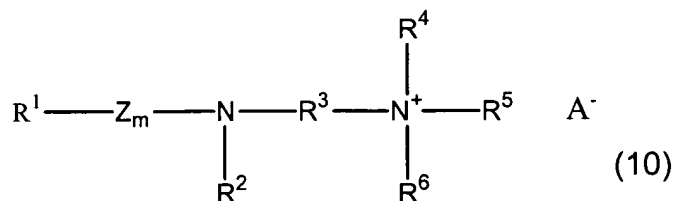
wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from about 4 to about 30 carbon atoms, R<sup>2</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and R<sup>3</sup> is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl;

(c) diamines having the formula:

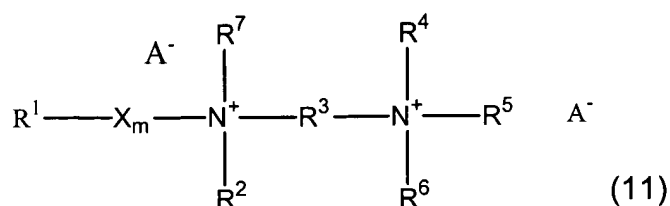


wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>5</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms or -R<sup>8</sup>(OR<sup>9</sup>)<sub>n</sub>OR<sup>10</sup>, R<sup>3</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 18 carbon atoms, R<sup>8</sup> and R<sup>9</sup> are individually hydrocarbylene or substituted hydrocarbylene having from 2 to about 4 carbon atoms, R<sup>4</sup> and R<sup>10</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, m is 0 or 1, n is an average number from 0 to about 40, and X is -C(O)- or -SO<sub>2</sub>-;

(d) mono- or di-ammonium salts having the formula:

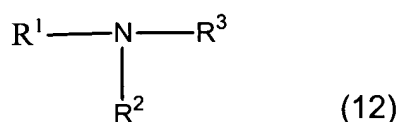


or

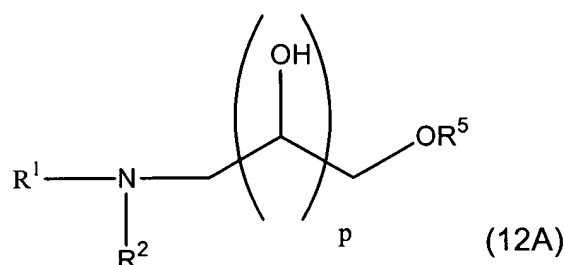


wherein  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^4$ ,  $\text{R}^5$  and  $\text{R}^7$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms or  $-\text{R}^8(\text{OR}^9)_n\text{OR}^{10}$ ,  $\text{R}^6$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $\text{R}^3$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $\text{R}^8$  and  $\text{R}^9$  are individually hydrocarbylene or substituted hydrocarbylene having from 2 to about 4 carbon atoms,  $\text{R}^{10}$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $m$  is 0 or 1,  $n$  is an average number from 0 to about 40,  $\text{X}$  is  $-\text{C}(\text{O})-$  or  $-\text{SO}_2-$ ,  $\text{Z}$  is  $-\text{C}(\text{O})-$ , and  $\text{A}^-$  is an agriculturally acceptable anion;

(e) poly(hydroxyalkyl)amines having the formula:



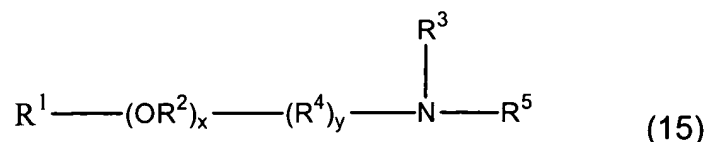
or



wherein  $\text{R}^1$  is hydrocarbyl or substituted hydrocarbyl having from about 4 to about 30 carbon atoms or  $-\text{R}^4\text{OR}^8$ ,  $\text{R}^2$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $\text{R}^3$  is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl,  $\text{R}^4$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 18 carbon atoms,  $\text{R}^8$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and  $\text{R}^5$  is  $-(\text{R}^6\text{O})_y\text{R}^7$ ;  $\text{R}^6$  in each of the  $y(\text{R}^6\text{O})$

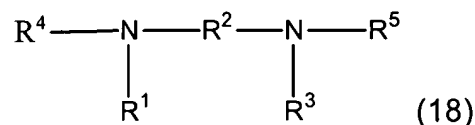
groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>7</sup> is hydrogen or a linear or branched alkyl group having 1 to about 4 carbon atoms; and y is an average number from 0 to about 30;

(f) alkoxylated poly(hydroxyalkyl)amines having the formula:



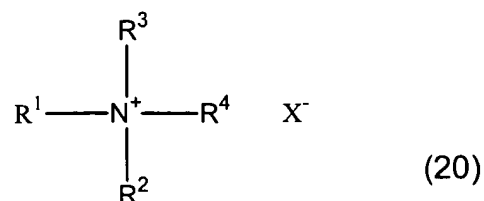
wherein R<sup>1</sup> and R<sup>3</sup> are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>4</sup> is hydrocarbylene or substituted hydrocarbylene having from 1 to about 30 carbon atoms, R<sup>5</sup> is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl; x is an average number from 0 to about 30, and y is 0 or 1;

(g) di-poly(hydroxyalkyl)amine having the formula:



wherein R<sup>1</sup> and R<sup>3</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 22 carbon atoms, R<sup>2</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 18 carbon atoms, and R<sup>4</sup> and R<sup>5</sup> are independently hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl;

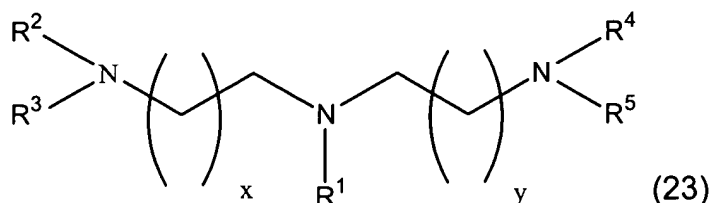
(h) quaternary poly(hydroxyalkyl)amine salts having the formula:



wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from about 4 to about 30 carbon atoms, R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or hydrocarbyl or substituted

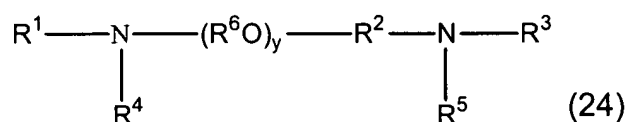
hydrocarbyl having from 1 to about 30 carbon atoms,  $R^4$  is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl, and  $X^-$  is an agriculturally acceptable anion;

(i) triamines having the formula:



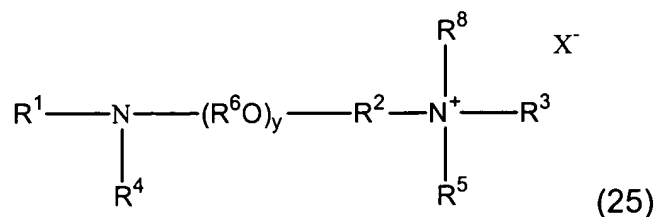
wherein  $R^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^8)_s(R^7O)_nR^6$ ;  $R^6$  is hydrogen or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $R^7$  in each of the  $n$   $(R^7O)$  groups is independently  $C_2$ - $C_4$  alkylene;  $R^8$  is hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms,  $n$  is an average number from 1 to about 10,  $s$  is 0 or 1, and  $x$  and  $y$  are independently an integer from 1 to about 4;

(j) diamines having the formula:

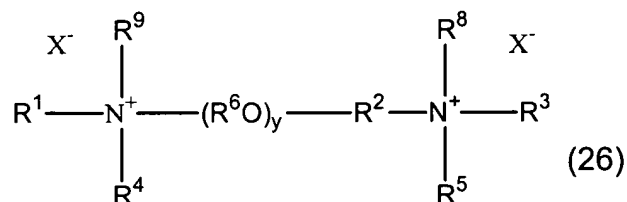


wherein  $R^1$ ,  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^6O)_xR^7$ ,  $R^2$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $C(=NR^{11})NR^{12}R^{13}$ -,  $-C(=O)NR^{12}R^{13}$ -,  $-C(=S)NR^{12}R^{13}$ -,  $-C(=NR^{12})$ -,  $-C(S)$ -, or  $-C(O)$ -,  $R^6$  in each of the  $x$   $(R^6O)$  and  $y$   $(R^6O)$  groups is independently  $C_2$ - $C_4$  alkylene,  $R^7$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms,  $R^{11}$ ,  $R^{12}$  and  $R^{13}$  are hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $x$  is an average number from 1 to about 50, and  $y$  is an average number from 0 to about 60;

(k) mono- or di-quaternary ammonium salts having the formula:

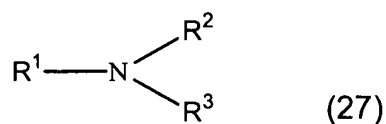


or



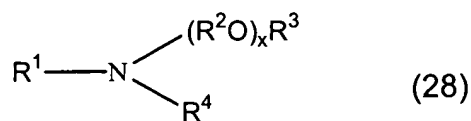
wherein  $\text{R}^1$ ,  $\text{R}^3$ ,  $\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^8$  and  $\text{R}^9$  are independently hydrogen, polyhydroxyalkyl, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or -  $(\text{R}^6\text{O})_x\text{R}^7$ ,  $\text{R}^2$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $\text{R}^6$  in each of the  $x$   $(\text{R}^6\text{O})$  and  $y$   $(\text{R}^6\text{O})$  groups is independently  $\text{C}_2\text{-C}_4$  alkylene,  $\text{R}^7$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $x$  is an average number from 1 to about 30,  $y$  is an average number from about 3 to about 60, and  $\text{X}^-$  is an agriculturally acceptable anion;

(l) a secondary or tertiary amine having the formula:



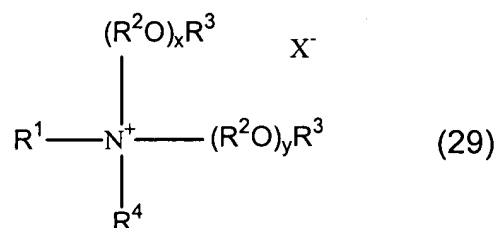
wherein  $\text{R}^1$  and  $\text{R}^2$  are hydrocarbyl having from 1 to about 30 carbon atoms, and  $\text{R}^3$  is hydrogen or hydrocarbyl having from 1 to about 30 carbon atoms;

(m) monoalkylated amines having the formula:



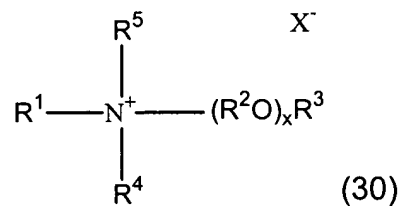
wherein  $R^1$  and  $R^4$  are independently hydrocarbyl or substituted hydrocarbyl groups having from 1 to about 30 carbon atoms or  $-R^5SR^6$ ,  $R^2$  in each of the  $x$  ( $R^2O$ ) groups is independently  $C_2-C_4$  alkylene,  $R^3$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $R^5$  is a linear or branched alkyl group having from about 6 to about 30 carbon atoms,  $R^6$  is a hydrocarbyl or substituted hydrocarbyl group having from 4 to about 15 carbon atoms and  $x$  is an average number from 1 to about 60;

(n) dialkoxylated quaternary ammonium salts having the formula:



wherein  $R^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^2$  in each of the  $x$  ( $R^2O$ ) and  $y$  ( $R^2O$ ) groups is independently  $C_2-C_4$  alkylene,  $R^3$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $R^4$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $x$  and  $y$  are independently an average number from 1 to about 40, and  $X^-$  is an agriculturally acceptable anion, provided, however, that either  $R^1$  or  $R^4$  is other than alkyl;

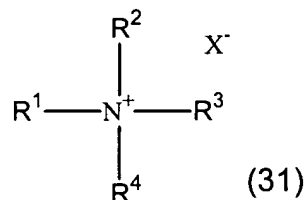
(o) monoalkoxylated quaternary ammonium salts having the formula:



wherein  $R^1$  and  $R^5$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^4$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^2$  in each of the  $x$  ( $R^2O$ ) groups

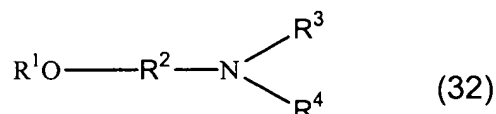
is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, x is an average number from 1 to about 60, and X<sup>-</sup> is an agriculturally acceptable anion;

(p) quaternary ammonium salts having the formula:



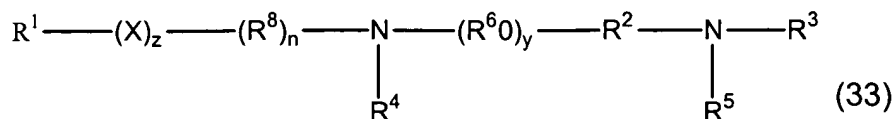
wherein R<sup>1</sup>, R<sup>3</sup> and R<sup>4</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and X<sup>-</sup> is an agriculturally acceptable anion, provided, however that R<sup>1</sup> is not alkyl when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are lower alkyl;

(q) etheramines having the formula:



wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; R<sup>2</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms; R<sup>3</sup> and R<sup>4</sup> are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or -(R<sup>5</sup>O)<sub>x</sub>R<sup>6</sup>, R<sup>5</sup> in each of the x(R<sup>5</sup>-O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>6</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 50;

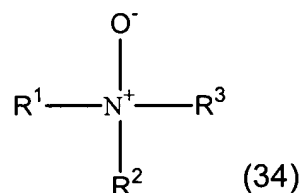
(r) diamines having the formula:





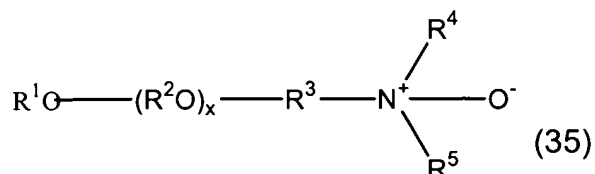
wherein  $R^1$ ,  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^6O)_xR^7$ ;  $R^2$  and  $R^8$  are independently hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $R^6$  in each of the  $x$  ( $R^6O$ ) and  $y$  ( $R^6O$ ) groups is independently  $C_2$ - $C_4$  alkylene,  $R^7$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms,  $x$  is an average number from 1 to about 30,  $X$  is  $-O-$ ,  $-N(R^6)-$ ,  $-C(O)-$ ,  $-C(O)O-$ ,  $-OC(O)-$ ,  $-N(R^9)C(O)-$ ,  $-C(O)N(R^9)-$ ,  $-S-$ ,  $-SO-$ , or  $-SO_2-$ ,  $y$  is 0 or an average number from 1 to about 30,  $n$  and  $z$  are independently 0 or 1, and  $R^9$  is hydrogen or hydrocarbyl or substituted hydrocarbyl;

(s) amine oxides having the formula:



wherein  $R^1$ ,  $R^2$  and  $R^3$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $-(R^4O)_xR^5$ , or  $-R^6(OR^4)_xOR^5$ ;  $R^4$  in each of the  $x$  ( $R^4O$ ) groups is independently  $C_2$ - $C_4$  alkylene,  $R^5$  is hydrogen, or a hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^6$  is a hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms,  $x$  is an average number from 1 to about 50, and the total number of carbon atoms in  $R^1$ ,  $R^2$  and  $R^3$  is at least 8;

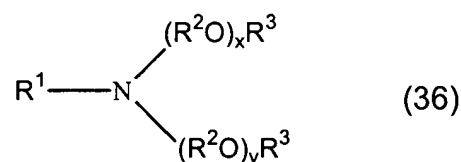
(t) alkoxyated amine oxides having the formula:



wherein  $R^1$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $R^2$  in each of the  $x$  ( $R^2O$ ) and  $y$  ( $R^2O$ ) groups is independently  $C_2$ - $C_4$  alkylene;  $R^3$  is a hydrocarbylene or substituted hydrocarbylene having from 2 to about 6

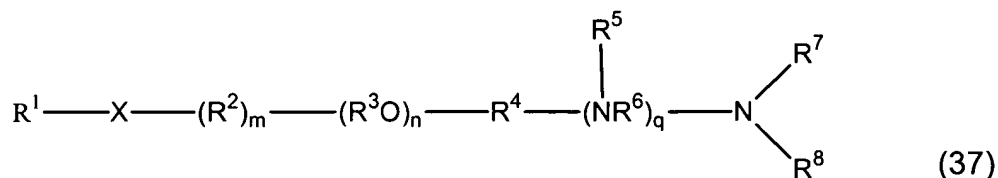
carbon atoms;  $R^4$  and  $R^5$  are each independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $-(R^6)_n-(R^2O)_yR^7$ ;  $R^6$  is hydrocarbylene or substituted hydrocarbylene containing from 1 to about 6 carbon atoms,  $R^7$  is hydrogen or a linear or branched alkyl group having 1 to about 4 carbon atoms,  $n$  is 0 or 1, and  $x$  and  $y$  are independently an average number from 1 to about 60;

(u) dialkoxylated amines having the formula:



wherein  $R^1$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $-R^4SR^5$ , or  $-(R^2O)_zR^3$ ,  $R^2$  in each of the  $x$   $(R^2O)$ ,  $y$   $(R^2O)$  and  $z$   $(R^2O)$  groups is independently  $C_2$ - $C_4$  alkylene,  $R^3$  is hydrogen, or a linear or branched alkyl group having from 1 to about 22 carbon atoms,  $R^4$  is a linear or branched alkyl group having from about 6 to about 30 carbon atoms,  $R^5$  is a linear or branched alkyl group having from about 4 to about 15 carbon atoms, and  $x$ ,  $y$  and  $z$  are independently an average number from 1 to about 40, provided, however, that when  $R^1$  is alkyl, either the sum of  $x$  and  $y$  is greater than 20 or  $R^3$  is other than hydrogen;

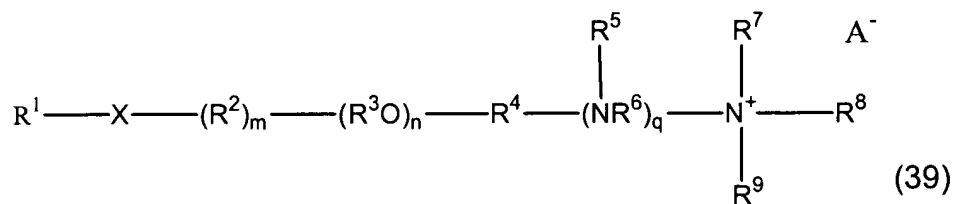
(v) aminated alkoxylated alcohols having the following chemical structure:



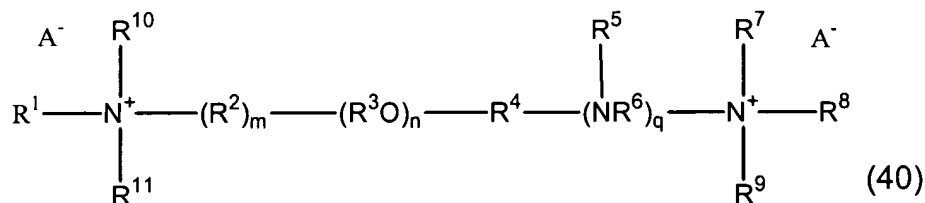
wherein  $R^1$ ,  $R^7$ ,  $R^8$ , and  $R^9$  are each independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^{11})_s(R^3O)_vR^{10}$ ;  $X$  is  $-O-$ ,  $-OC(O)-$ ,  $-C(O)O-$ ,  $-N(R^{12})C(O)-$ ,  $-C(O)N(R^{12})-$ ,  $-S-$ ,  $-SO-$ ,  $-SO_2-$  or  $-N(R^9)-$ ;  $R^3$  in each of the  $n$   $(R^3O)$  groups and the  $v$   $(R^3O)$  groups is independently  $C_2$ - $C_4$  alkylene;  $R^{10}$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms;  $n$  is an average number from 1 to about 60;  $v$  is an average number from 1 to about 50;

$R^2$  and  $R^{11}$  are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms;  $R^4$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon atoms;  $R^{12}$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $m$  and  $s$  are each independently 0 or 1;  $R^6$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $-C(=NR^{12})-$ ,  $-C(S)-$ , or  $-C(O)-$ ;  $q$  is an integer from 0 to 5; and  $R^5$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;

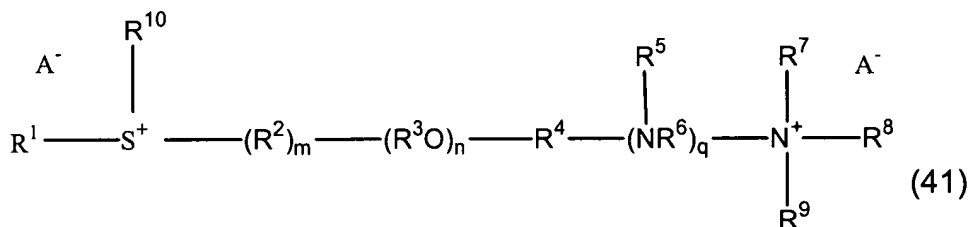
(w) a quaternary ammonium, sulfonium or sulfoxonium salt having the following chemical structure:



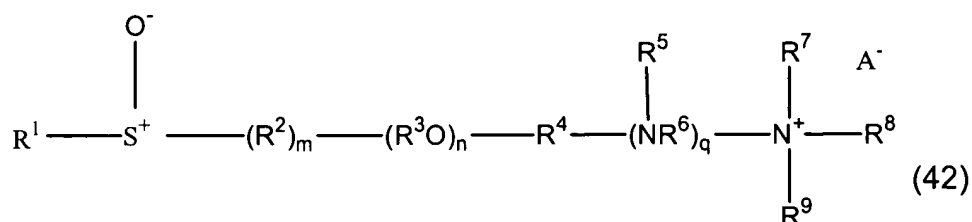
or



or

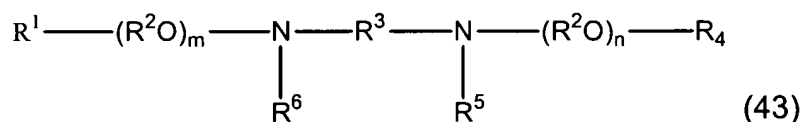


or

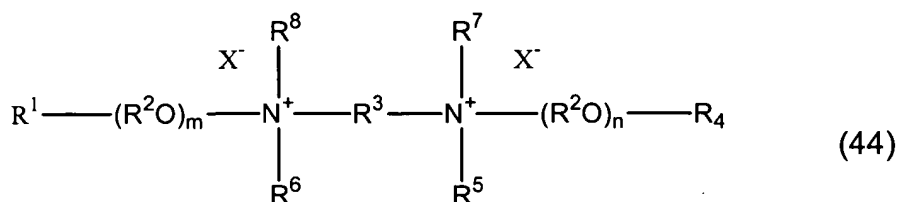


wherein  $\text{R}^1$ ,  $\text{R}^7$ ,  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$  and  $\text{R}^{11}$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^{13})_s(\text{R}^3\text{O})_v\text{R}^{12}$ ; X is -O-, -OC(O)-, -N( $\text{R}^{14}$ )C(O)-, -C(O)N( $\text{R}^{14}$ )-, -C(O)O-, or -S-;  $\text{R}^3$  in each of the n ( $\text{R}^3\text{O}$ ) groups and v ( $\text{R}^3\text{O}$ ) groups is independently  $\text{C}_2$ - $\text{C}_4$  alkylene;  $\text{R}^{12}$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms; n is an average number from 1 to about 60; v is an average number from 1 to about 50;  $\text{R}^2$  and  $\text{R}^{13}$  are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms; m and s are each independently 0 or 1;  $\text{R}^4$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon atoms;  $\text{R}^6$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms, -C(=NR<sup>12</sup>)-, -C(S)-, or -C(O)-;  $\text{R}^{14}$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, q is an integer from 0 to 5;  $\text{R}^5$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; and each  $\text{A}^-$  is an agriculturally acceptable anion;

(x) a diamine or diammonium salt having the formula:

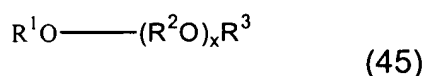


or



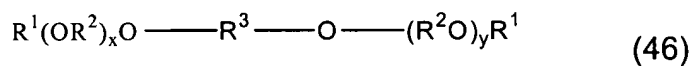
wherein  $R^1$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^2$  in each of the  $m$  ( $R^2O$ ) and  $n$  ( $R^2O$ ) groups and  $R^9$  are independently  $C_2$ - $C_4$  alkylene,  $R^3$  is hydrocarbylene or substituted hydrocarbylene having from about 2 to about 6 carbon atoms or  $-(R^2O)_pR^9-$ ,  $m$  and  $n$  are individually an average number from 0 to about 50, and  $p$  is an average number from 0 to about 60;

(y) an alkoxylated alcohol having the formula:



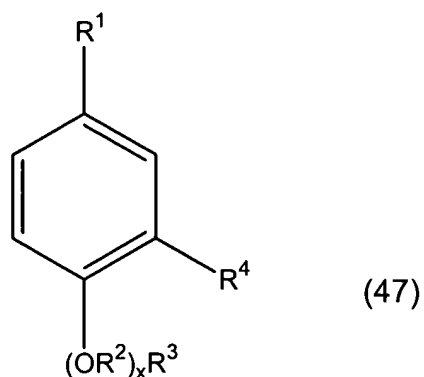
wherein  $R^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^2$  in each of the  $x$  ( $R^2O$ ) groups is independently  $C_2$ - $C_4$  alkylene,  $R^3$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and  $x$  is an average number from 1 to about 60, provided, however, that when  $R^1$  is alkyl, either  $R^3$  is other than hydrogen or  $x$  is at least 10;

(z) dialkoxylated alcohols having the formula:



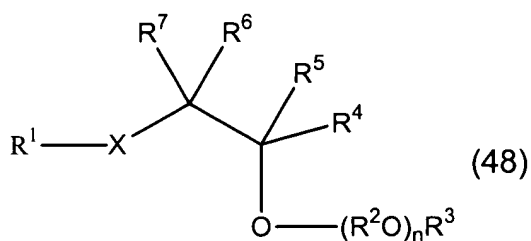
wherein  $R^1$  is independently hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $R^2$  in each of the  $x$  ( $R^2O$ ) and the  $y$  ( $R^2O$ ) groups is independently  $C_2$ - $C_4$  alkylene,  $R^3$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms, and  $x$  and  $y$  are independently an average number from 1 to about 60;

(aa) alkoxylated dialkylphenols having the formula:

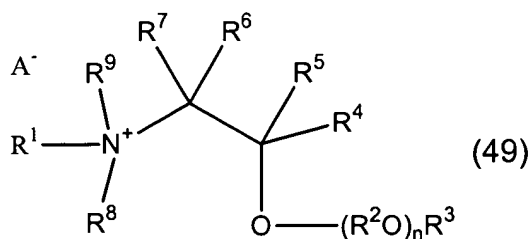


wherein  $R^1$  and  $R^4$  are independently hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms and at least one of  $R^1$  and  $R^4$  is an alkyl group,  $R^2$  in each of the  $x$   $(R^2O)$  groups is independently  $C_2$ - $C_4$  alkylene,  $R^3$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and  $x$  is an average number from 1 to about 60;

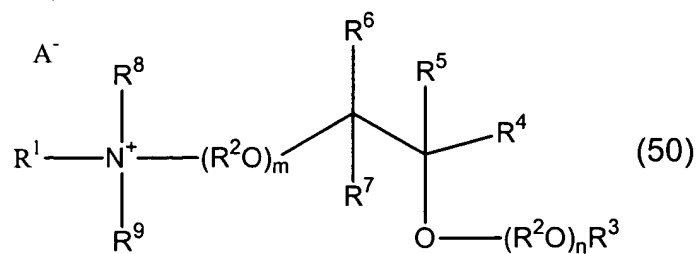
(bb) a compound of the formula:



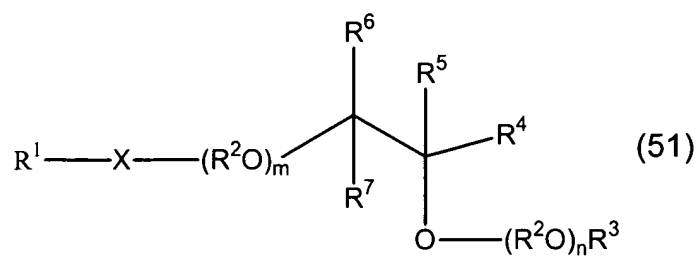
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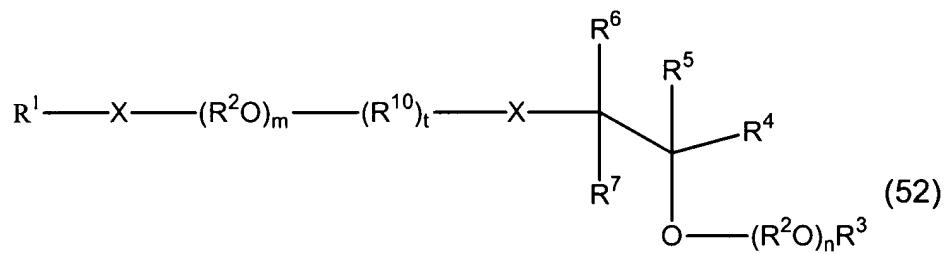
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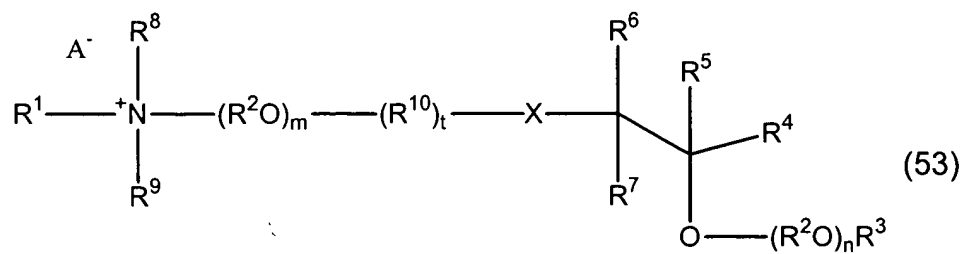
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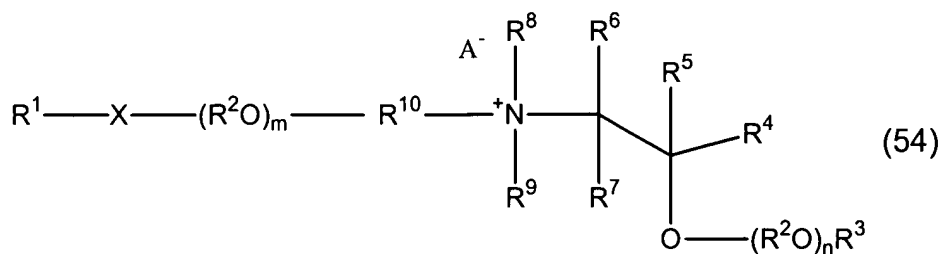
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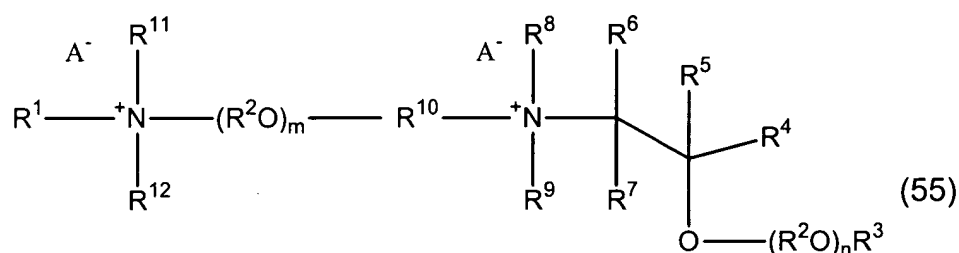
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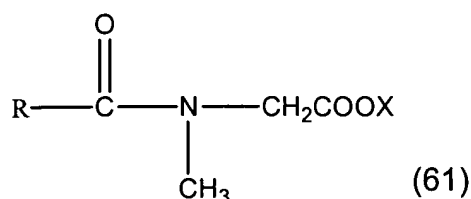


or



wherein  $\text{R}^1$ ,  $\text{R}^9$ , and  $\text{R}^{12}$  are independently hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^2\text{O})_p\text{R}^{13}$ ;  $\text{R}^2$  in each of the  $m$   $(\text{R}^2\text{O})$ ,  $n$   $(\text{R}^2\text{O})$ ,  $p$   $(\text{R}^2\text{O})$  and  $q$   $(\text{R}^2\text{O})$  groups is independently  $\text{C}_2\text{--C}_4$  alkylene;  $\text{R}^3$ ,  $\text{R}^8$ ,  $\text{R}^{11}$ ,  $\text{R}^{13}$  and  $\text{R}^{15}$  are independently hydrogen, or a hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $\text{R}^4$  is  $-(\text{CH}_2)_y\text{OR}^{13}$  or  $-(\text{CH}_2)_y\text{O}(\text{R}^2\text{O})_q\text{R}^3$ ;  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $\text{R}^4$ ;  $\text{R}^{10}$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms;  $\text{R}^{14}$  is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{CH}_2)_z\text{O}(\text{R}^2\text{O})_p\text{R}^3$ ;  $m$ ,  $n$ ,  $p$  and  $q$  are independently an average number from 1 to about 50;  $\text{X}$  is independently  $-\text{O}-$ ,  $-\text{N}(\text{R}^{14})-$ ,  $-\text{C}(\text{O})-$ ,  $-\text{C}(\text{O})\text{O}-$ ,  $-\text{OC}(\text{O})-$ ,  $-\text{N}(\text{R}^{15})\text{C}(\text{O})-$ ,  $-\text{C}(\text{O})\text{N}(\text{R}^{15})-$ ,  $-\text{S}-$ ,  $-\text{SO}-$ , or  $-\text{SO}_2-$ ;  $t$  is 0 or 1;  $\text{A}^-$  is an agriculturally acceptable anion; and  $y$  and  $z$  are independently an integer from 0 to about 30;

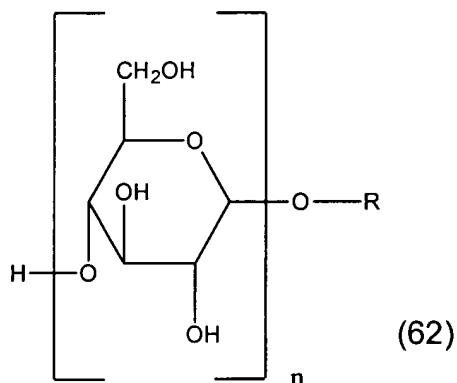
(cc) an N-acyl sarcosinate having the formula:





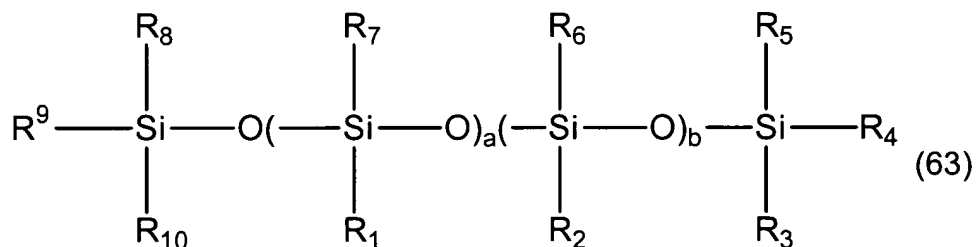
wherein R is C<sub>8</sub> to C<sub>22</sub> N-acyl, preferably a fatty acid of chain length C<sub>10</sub> to C<sub>18</sub>, and X is an agriculturally acceptable anion;

(dd) a glycoside having the formula:



wherein n is the degree of polymerization, or number of glucose groups, and R is a branched or straight chain alkyl group preferably having from 4 to 18 carbon atoms, or a mixture of alkyl groups having an average value within the given range; or

(ee) a polysiloxane having the formula:



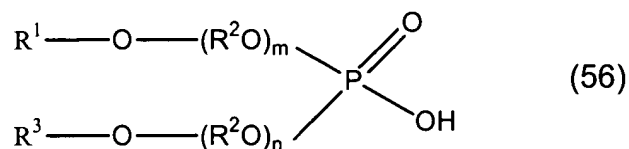
wherein R<sup>1</sup> is -C<sub>n</sub>H<sub>2n</sub>O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub>(CH<sub>2</sub>CH(CH<sub>3</sub>)O)<sub>q</sub>X, n is 0 to 6, a is 0 to about 100, b is 0 to about 10, m is 0 to about 30, q is 0 to about 30, X is hydrogen or a C<sub>1-20</sub> hydrocarbyl or C<sub>2-6</sub> acyl group, and R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub> groups are independently substituted or unsubstituted C<sub>1-20</sub> hydrocarbyl or nitrogen containing groups;

(ff) a compound having the formula:



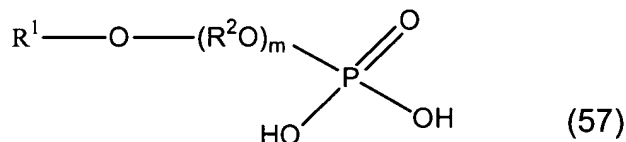
wherein  $R_1$  is a hydrocarbyl group having from about 8 to about 22 carbon atoms, each of the  $n$  ( $R_2O$ ) groups is independently  $C_2$ - $C_4$  alkylene,  $n$  is a number from 0 to about 60, and  $X_1$  is a carboxylate, sulfate or phosphate;

(gg) a phosphate diester having the formula:



wherein  $R^1$  and  $R^3$  are independently a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms;  $R^2$  in each of the  $m$  ( $R^2O$ ) and the  $n$  ( $R^2O$ ) groups is independently  $C_2$ - $C_4$  alkylene; and  $m$  and  $n$  are independently from 1 to about 30; and

(hh) a phosphate ester having the formula:



wherein  $R^1$  is a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms;  $R^2$  in each of the  $m$  ( $R^2O$ ) groups is independently  $C_2$ - $C_4$  alkylene; and  $m$  is from 1 to about 30; and

(ii) an anionic surfactant selected from the group consisting of fatty soaps, alkyl sulfates, sulfated oils, ether sulfates, sulfonates, sulfosuccinates, sulfonated amides and isethionates.

124-127. (canceled)

128. (previously presented) A solid herbicidal concentrate composition comprising:

a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a compound which increases cell membrane permeability within the plant to increase cellular uptake of the glyphosate in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

129. (original) A composition of claim 128 further including a surfactant component comprising one or more surfactants.

130. (original) A composition of claim 128 wherein said compound comprises oxalic acid or a salt thereof.

131-139. (canceled)

140. (original) A solid herbicidal concentrate composition comprising:

a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a compound which increases expression of hydroxyproline-rich glycoproteins which increases movement of said pesticide to the phloem in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

141. (original) A composition of claim 140 further including a surfactant component comprising one or more surfactants.

142. (original) A composition of claim 140 wherein said compound comprises oxalic acid or a salt thereof.

143-145. (canceled).

146. (original) A solid pesticidal concentrate composition comprising:  
a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant; and  
oxalic acid or a salt thereof.

147. (original) A composition of claim 146 further including a surfactant component comprising one or more surfactants.

148. (previously presented) A solid pesticidal concentrate composition comprising:  
a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant;  
oxalic acid or a salt thereof; and  
a surfactant component comprising one or more cationic or nonionic surfactants.